Fig. 4-1-3 The layers of the atmosphere, p. 276

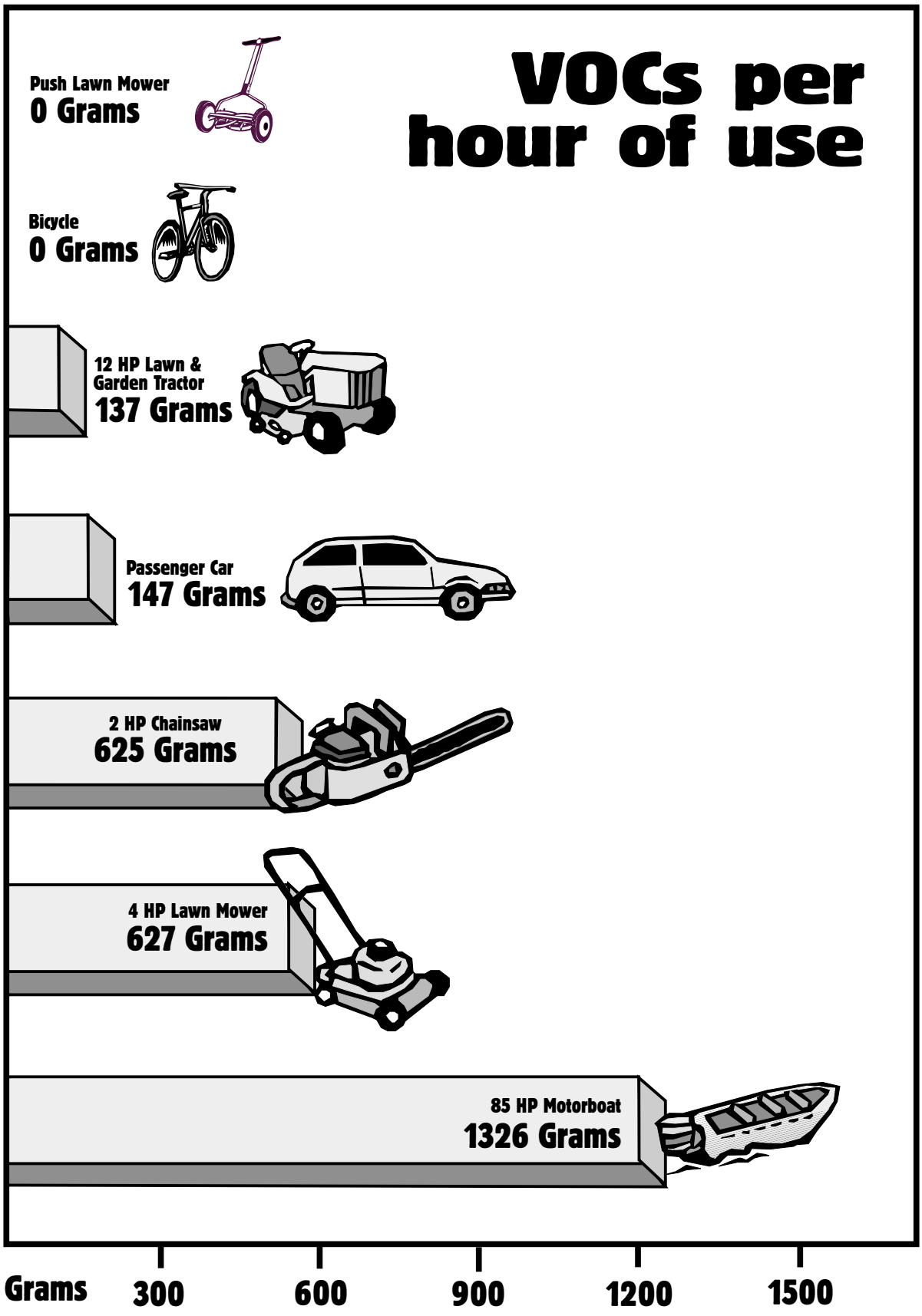


Fig. 4-1-5 Ozone-causing VOC emissions per hour of use, p. 278 **OH-29**

Source: U.S. Environmental Protection Agency

Ground-level Ozone Forecast and Action Guide

CODE RED Unhealthful

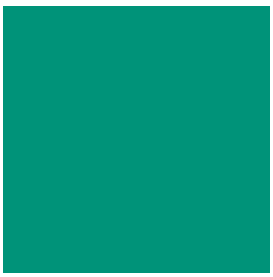
Hazy, hot and humid ■ Sunny skies
Stationary high pressure ■ Temperatures in the 90's and up

CODE ORANGE Approaching Unhealthful

Sunny skies and light winds ■ Slow moving high pressure
Temperatures–80's to low 90's

CODE YELLOW Moderate

Light to moderate wind ■ Partly cloudy to sunny skies
High pressure system ■ Temperatures–Upper 70's to mid 80's



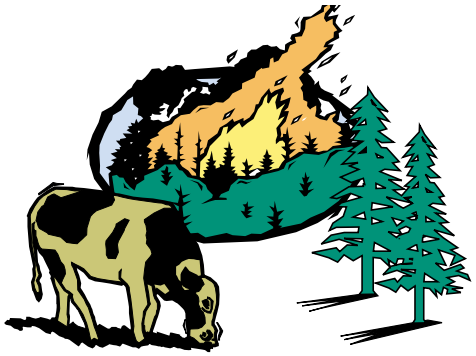
CODE GREEN Good

Windy conditions ■ Partly sunny to cloudy skies or rain
Passing cold front ■ Temperatures–Upper 70's to mid 80's

Air Pollution Sources

Natural sources

lightning
pine trees
brush and forest fires
cattle
volcanoes
geysers
wetlands/swamps



Human sources

vehicles
furnaces
open burning
leaf burning
dusty coal piles
power plants
adhesives
petroleum storage
factories
landfills
commercial printers
filling stations
charcoal grills
lawn mowers
off-road vehicles
jet skis, boats
airplanes
refrigerants
paint
solvents
fireplaces
woodstoves
furnaces

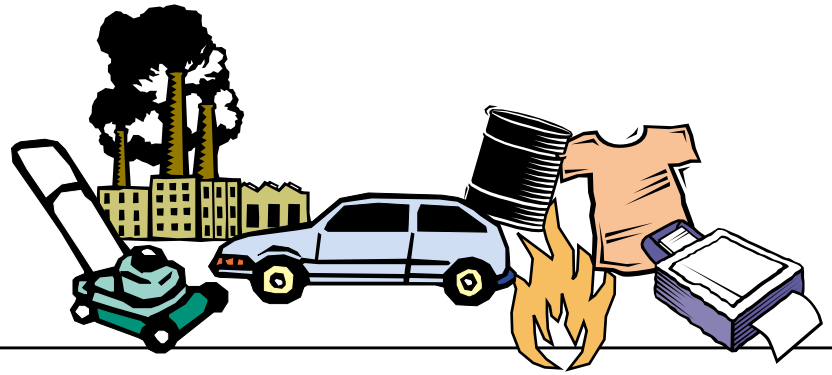
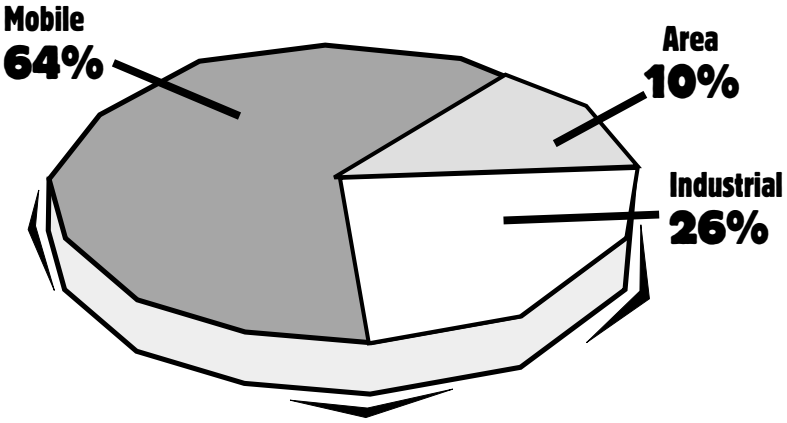
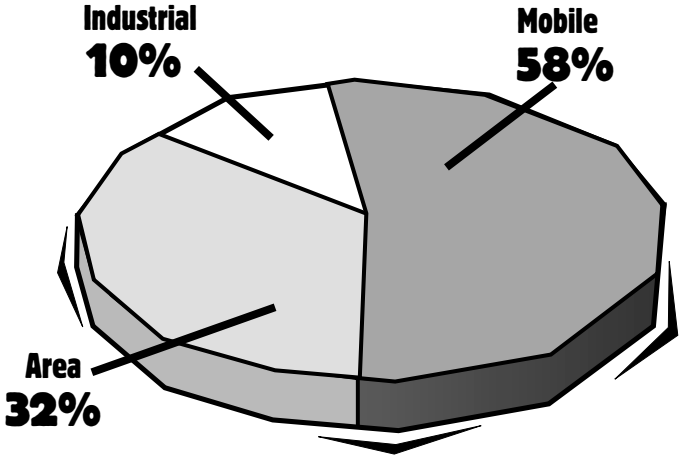


Fig. 4-1-6 Air pollution soures, p. 279



U.S. averages of nitrogen oxide (NO_X) emission sources in nonattainment areas.



U.S. averages of volatile organic compound (VOC) emission sources in nonattainment areas.
Source: U. S. Environmental Protection Agency

Figs. 4-1-7 & 4-1-8 U.S. averages of nitrogen oxide (NOx) and volatile organic compound (VOC) emissions in nonattainment areas, p. 281

Vehicles

NO_X, CO, VOC, particulates

Grills

Charcoal/lighter fluid:
Petroleum naphtha, VOCs

Industry

Fuel Processing Plant (Burning Coal):
Sulfur dioxide (SO_2), nitrogen oxides (NO_x), carbon monoxide (CO), particulates, volatile organic compounds (VOCs), and greenhouse gases

Paper Mill/Wood Production
hydrogen sulfide (H_2S)

Lawnmowers

sulfur, benzene, methane (CH_3), other hydrocarbons, CO, NO_x, particulates

Homes

Fireplaces:
particulates, carbon dioxide (CO_2)

Oil-based solvents/paints:
VOCs

Fig. 4-2-6 Air pollutants, by source p. 302

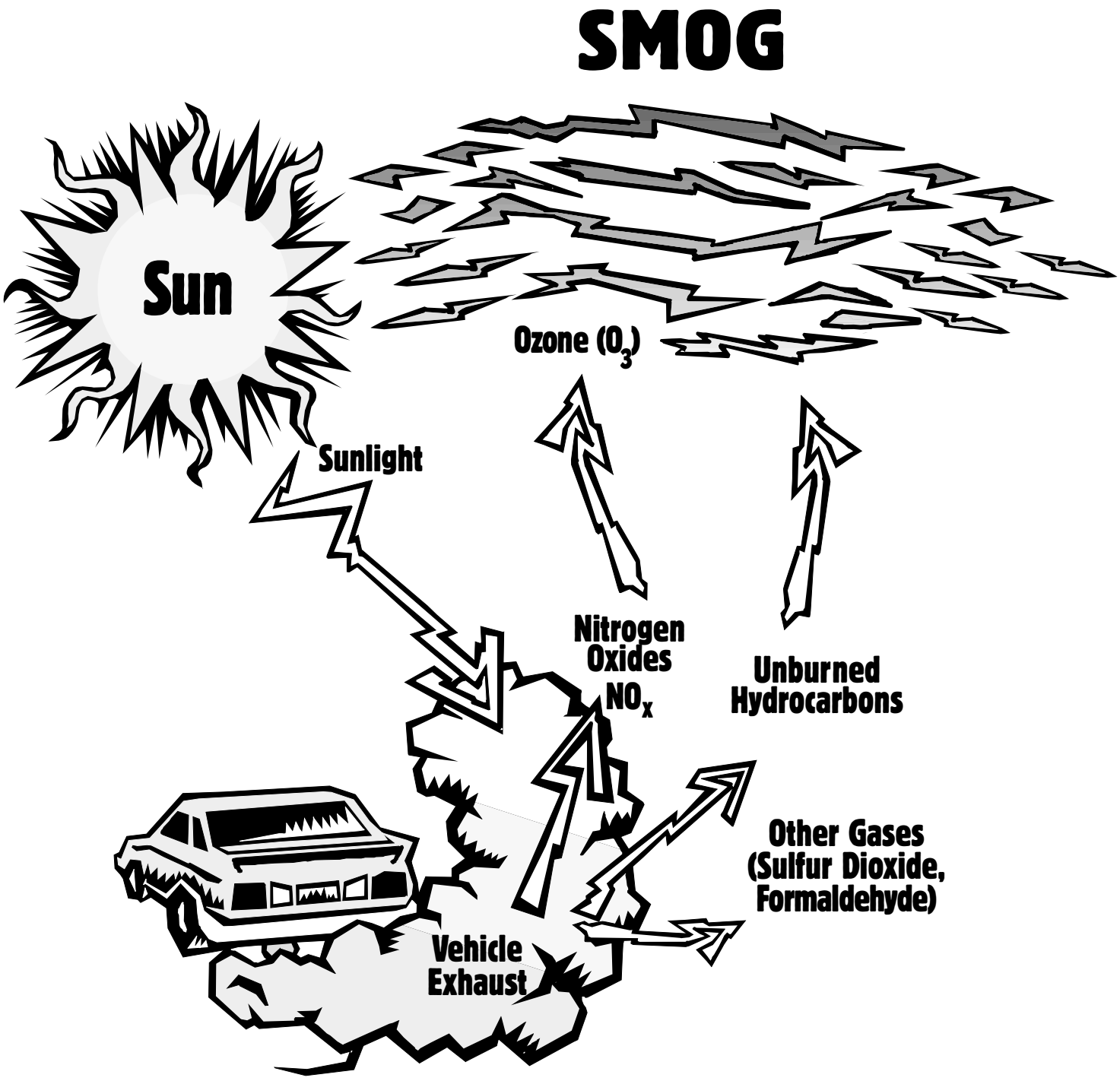


Fig. 4-2-5 Ingredients of smog from vehicle exhaust, p. 303

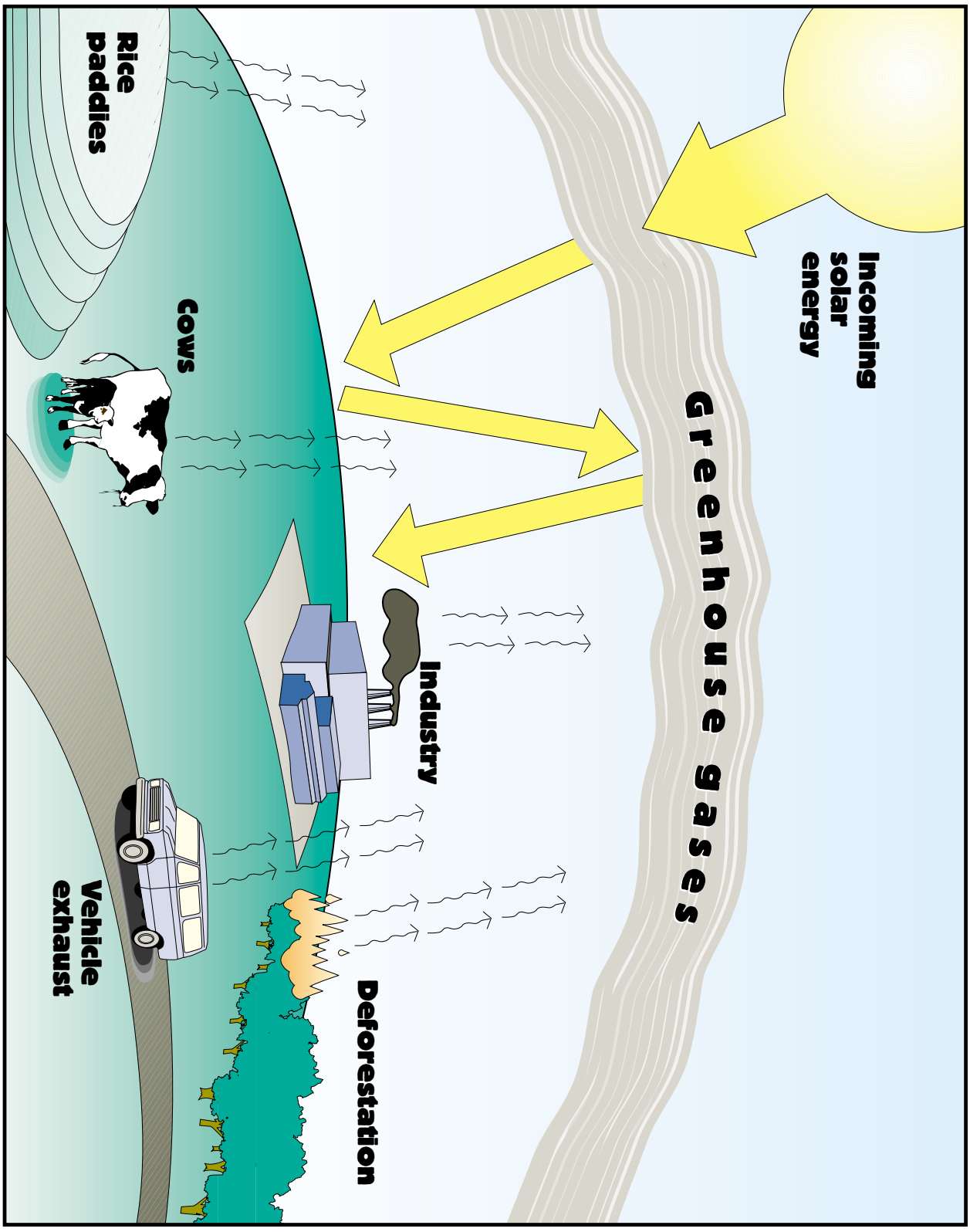
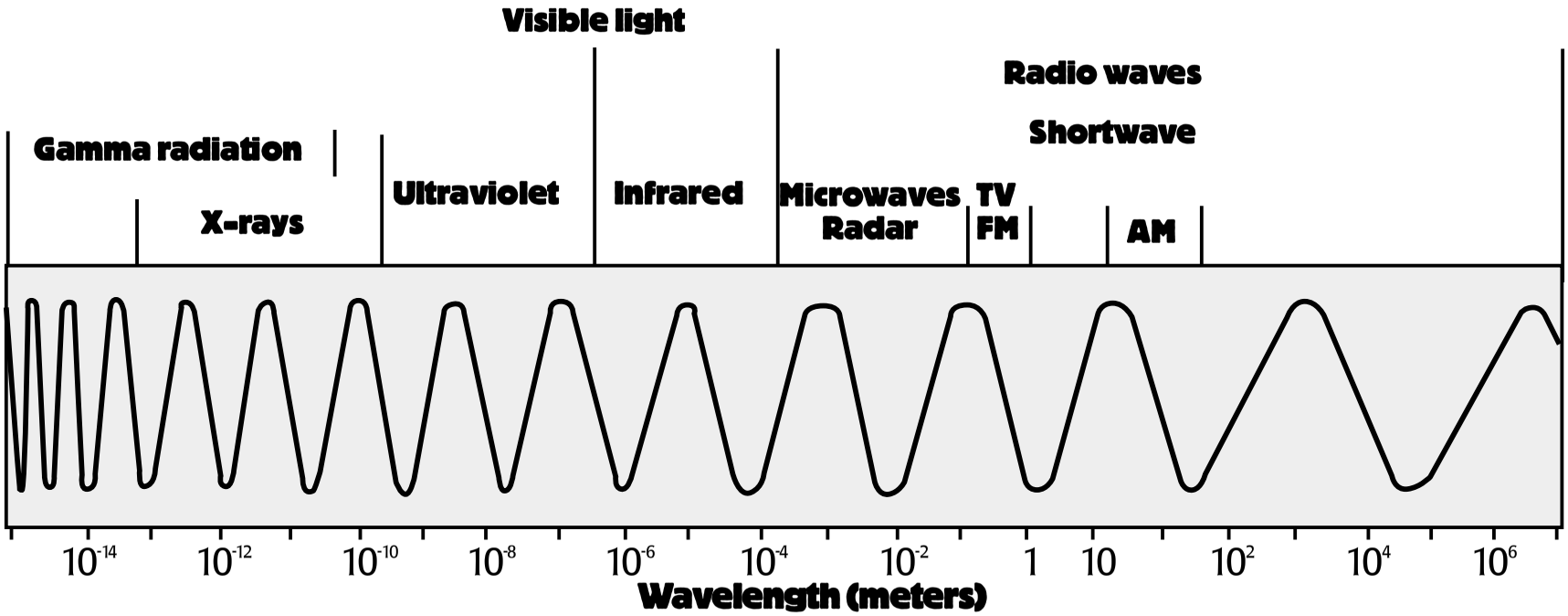


Fig. 4-3-1 Greenhouse gases, p. 315



Flg. 4-3-2 Electromagnetic spectrum, p. 316

Figure 4-3-2 *The electromagnetic spectrum includes radio, infrared, visible light, ultraviolet, x-rays, and gamma rays.*

Solar radiation, a term used to describe all electromagnetic radiation emitted by the sun including visible light, passes through the atmosphere, is absorbed, and re-radiated back out to space as infrared (heat) waves.

Fig. 4-3-3 Carbon cycle, p. 317

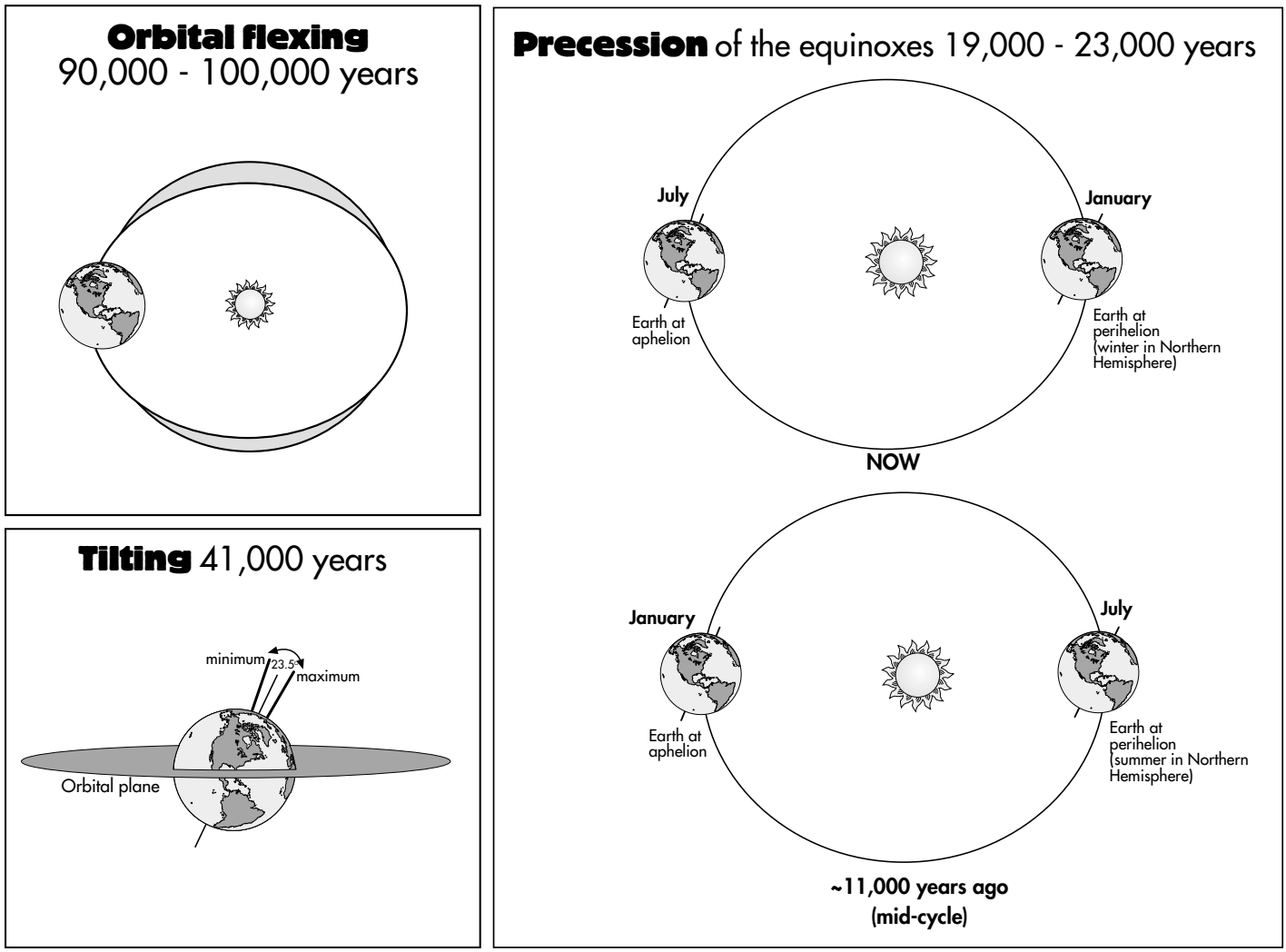


Fig. 4-3-4 Milankovich cycles, p. 319

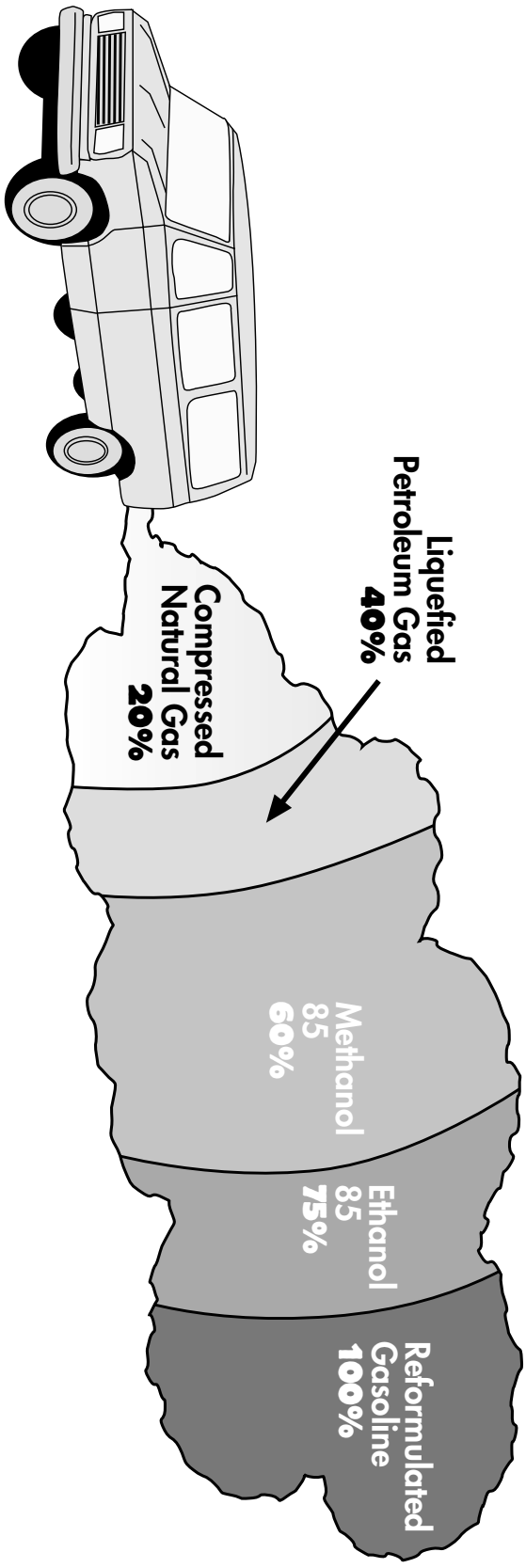
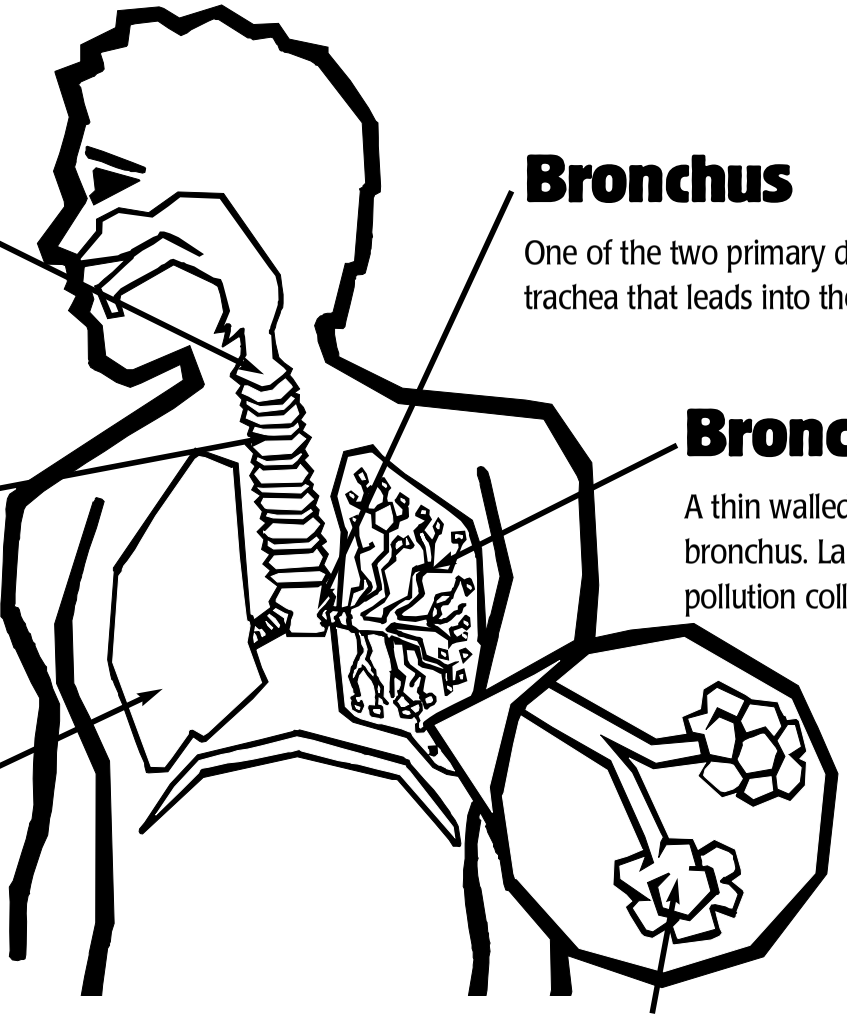


Fig. 4-3-8 Percentage of combined CO and NO_x emissions p. 325 **OH-39**

Source: U.S. Department of Energy, Alternative Fuels Data Center



Larynx

Air passes over the larynx and down the trachea

Trachea

Windpipe; cartilage-reinforced tube extending from larynx to bronchi.

Lung

Organs specialized for the exchange of gases between blood and the atmosphere.

Bronchus

One of the two primary divisions of the trachea that leads into the lungs

Bronchiole

A thin walled branch of the bronchus. Large particulate pollution collects here.

Alveoli

A cluster of air sacs that is the site of gas exchange for the human body

Flg. 4-4-5 Human Respiratory System, p. 342